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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,499	08/01/2003	Frank Olschewski	21295.59(H5644US)	4405

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EXAMINER	
ROSARIO, DENNIS	

ART UNIT	PAPER NUMBER
2624	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/632,499	OLSCHEWSKI, FRANK	
	Examiner	Art Unit	
	DENNIS ROSARIO	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 June 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 August 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment was received on 6/29/09. Claims 1-11 are pending.

Response to Arguments

2. Applicant's arguments, see remarks, page 5, filed 6/29/09, with respect to the rejection(s) of claim(s) 1-11 under 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Sezan et al. (US Patent 5,682,205).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1,2,7,8 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Sezan et al. (US Patent 5,682,205).

Regarding claim 1, Sezan discloses a method for optimizing the image quality of movable subjects imaged with a microscope system, comprising the following steps:

a) optically acquiring images (implied by "camera" in col. 4, lines 31,32 which would include structures such as a lens which corresponds to the claimed optically) by a detector unit (said camera), each image having a plurality of pixels (indicated in fig. 2: "MISSING LINE OF PIXELS");

b) determining a respective displacement vector field (fig. 12A:E1) from a comparison ("compared" in col. 10, lines 9-15) of the pixels of each two chronologically successive acquired images (as shown in fig. 2);

c) identifying a trajectory ("motion trajectory…i.e., the velocity" in col. 12, lines 48-51 and "assumed motion trajectory" in col. 13, lines 63-65) for each pixel of the acquired images from the displacement vector fields (said E1 and E2 as shown in fig. 12C); and

d) applying an operation ("This operation" in col. 13, lines 63-65) to the images optically acquired by the detector unit along the identified trajectory (given that "e [as shown in fig. 12C] lies on the assumed motion trajectory" in col. 13, lines in ibid; thus, "This operation" or interpolation starts from "e" and travels from "e" along the assumed trajectory to location "a" in fig. 12C to fill in the missing pixel in field E1),

e) wherein the acquired images are not subjected to compression or decompression during the applying of the operation (given that Sezan does not mention compression, Sezan's images of E1 and E2 are reasonably not subject to compression).

Regarding claim 2 Sezan discloses the method as defined in Claim 1, wherein the operation along the identified trajectory is a deconvolution, a smoothing, an

averaging filter, or an operation acting in time-lateral fashion (as shown in fig. 12C as E1 and E2 that correspond to "two time sequential fields" in col. 1, lines 28-30).

Claim 7 is rejected the same as claim 1. Thus, argument presented in claim 1 is equally applicable to claim 7.

Claim 8 is rejected the same as claim 2. Thus, argument presented in claim 2 is equally applicable to claim 8.

Regarding claim 11, Sezan discloses a computer-usable software (or "image processing application software executable" in col. 8, lines 27-37) on a computer-readable medium (implied by the executable and "processor" ibid), wherein the software causes a microscope system to carry out a method as defined in one of Claims 1 through 6.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sezan et al. (US Patent 5,682,205) in view of Bouguet et al. (US Patent Application Publication No.: US 2003/0012408 A1).

Regarding claim 3, Sezan teaches the method as defined in Claim 1, wherein

a) the images (said E1 and E2) optically acquired by the detector unit (said camera) are conveyed to an image memory (implied by "field stores" in col. 4, lines 53-58); and

b) data (fig. 12C:E1) obtained from the images optically acquired by the detector unit (said camera) is conveyed to an optical flow calculator to a trajectory tracker, and to a trajectory memory (E1 is not clearly conveyed to the optical flow calculator and trajectory tracker and trajectory memory).

Further regarding claim 3,Bouguet teaches

a) the images optically acquired by the detector unit are conveyed to an image memory (fig. 1, 104,106,107 and 126); and

b) data obtained from the images optically acquired by the detector unit is conveyed to an optical flow calculator (implied by "optical flow tracking techniques" in paragraph [0066], 2nd sentence) to a trajectory tracker (fig. 2:204 that is used to "obtain a…trajectory" in [0028, last sentence), and to a trajectory memory (fig. 2:208 stores a trajectory as discussed in [0059]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sezan's teaching of E1 of a video frame with Bouguet's video frames of fig. 3 and creating and saving of the trajectory of fig. 2:210, because Bouguet's fig. 2:210 provides a further application of video, other than providing a clean video signal of Sezan, that provides better communication for a "video conference system" in [0002], 2nd sentence by "reduc[ing[" in [0002], 3rd sentence data to be processed.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sezan et al. (US Patent 5,682,205) in view of Bouguet et al. (US Patent Application Publication No.: US 2003/0012408 A1) as applied to claim 3 above, and further in view of Bouguet et al. (US Patent Application Publication No.: US 2003/0012408 A1).

Regarding claim 4, Sezan teaches the method as defined in Claim 3, wherein for the application of the operation (said interpolation), the images (said E1 and E2) optically acquired by the detector unit (said camera) are retrieved from the image memory (fig. 6:61,62 and 63) and corresponding trajectory data (Sezan does not clearly teach trajectory data, instead Sezan makes an assumption that the trajectory is constant camera motion and superposes vectors in fig. 12A on the assumed trajectory and fig. 12C: "e" is described as a pixel that "lies on" in col. 13, lines 63-65 the assumed trajectory; thus, "e" is the claimed trajectory data since a pixel can lie on anything to represent anything so "e" represents a portion of the assumed trajectory) is retrieved from the trajectory memory (fig. 6:63 is under the assumption of having the constant global trajectory) in a correlated way (via the other memories of fig. 6:61 and 62 that when related with each other can compute the vector "gdy" of fig. 12(c)).

Further regarding claim 4,Bouguet teaches the method as defined in Claim 3, wherein for the application of the operation, the images optically acquired by the detector unit are retrieved from the image memory and corresponding trajectory data (fig. 2: "SHAPE TRAJECTORY") is retrieved (via fig. 2:220) from the trajectory memory (fig. 2:208) in a correlated way (to track objects in fig. 2: MONOCULAR INPUT

SEQUENCE that is input to fig. 2:220 with the shape trajectory via fig. 2:206,208,COMPUTED MODEL and 220).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to expand Sezan's assumption of a camera's global trajectory from the images optically acquired from the camera/detector unit and Sezan's identification of other objects that don't follow the global trajectory or "pixels located on independently moving objects" in col. 6, lines 43-45 and the "e" with Bouguet's shape trajectory for the same reason as claim 3.

8. Claims 5 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sezan et al. (US Patent 5,682,205) in view of Bouguet et al. (US Patent Application Publication No.: US 2003/0012408 A1) as applied to claim 3 above, and further in view of Bouguet et al. (US Patent Application Publication No.: US 2003/0012408 A1) as applied to claim 4 above, further in view of Powers (US Patent 4,400,719).

Regarding claim 5, Sezan teaches the method as defined in Claim 4, wherein the data generated (via the interpolation) by application of the operation (interpolation) is conveyed (to be displayed) to a second image memory (not clear if the interpolated data is conveyed to the second memory).

Further regarding claim 5, Powers the method as defined in Claim 4, wherein the data generated by application of the operation is conveyed (Powers does not teach this limitation) to a second image memory (fig. 3:22).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sezan's display of an interpolated image with Power's

interpolated image of fig. 3:INTERPOLATOR with the memory of fig. 3:22 so a person can see the result.

Claim 9 is rejected the same as claims 3,4 and 5. Thus, argument presented in claims 3,4 and 5 is equally applicable to claim 9.

9. Claims 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sezan et al. (US Patent 5,682,205) in view of Walton (US Patent 3,967,054).

Regarding claim 6, Sezan teaches the method as defined in Claim 1, wherein the microscope system (fig. 6) contains a scanning microscope or a conventional microscope (not clear if fig. 6 contains the microscopes).

Further regarding claim 6, Walton teaches a "television microscope system" in col. 3, lines 10-12.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sezan's fig. 6 with Waltons system as shown in fig. 1, because Walton can obtain desired measurements that are used for "quality control" in col. 3, lines 36-38.

Claim 10 is rejected the same as claim 6. Thus, argument presented in claim 6 is equally applicable to claim 10.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hinman (US Patent 4,727,422) is pertinent as generally teaching what is the claimed displacement vector field as discussed in col. 5, lines 10-30.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DENNIS ROSARIO whose telephone number is (571)272-7397. The examiner can normally be reached on 9-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on (571)272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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